

IN THE CLAIMS:

Please amend the claims as follows:

1. (Currently Amended) A device for preventing arcing between contacts of a switching device as the contacts of the switching device are opened, the switching device including a coil for controlling the opening of the contacts, the device comprising:
a coil suppression circuit connected in parallel with the coil, the coil suppression circuit dissipating the energy stored in the coil in response to the de-energizing of the coil and including:
a first zener diode having a cathode operatively connected to the coil and an
anode; and
a second zener diode having a cathode operatively connected to the anode of the
first zener diode and an anode;
a driver having an input operatively connected to the anode of the first zener diode and an
output; and
a first solid state switch having a gate operatively connected to the output of the driver [coil suppression circuit] and being connected in parallel with the contacts, the first solid state switch movable between an open position preventing the flow of current therethrough and a closed position [in response to the dissipation of energy by the coil suppression circuit.];
wherein the driver closes the first solid state switch in response to a reference voltage across the
first zener diode.

Claims 2-3 (Cancelled).

4. (Original) The device of claim 3 wherein the driver includes a timing device for closing the first solid state switch for a predetermined time period.

Claims 5-6 (Cancelled).

7. (Currently Amended) The device of claim 1 [further comprising] wherein the driver includes a transformer, the transformer having a primary side operatively connected to the coil suppression circuit and a secondary side interconnected to the gate of the first solid state switch, the transformer transferring electrical energy from the coil suppression circuit to the gate of the first solid state switch.

8. (Original) The device of claim 7 further comprising a zener diode connected in parallel with the secondary side of the transformer.

9. (Original) The device of claim 7 wherein the transformer has a turn ratio of 1:1.

10. (Original) The device of claim 1 comprising a second solid state switch connected in series with the first solid state switch.

11. (Original) The device of claim 10 further comprising:
a first diode connected in parallel with the first solid state switch, the first diode biased in a first direction; and
a second diode connected in parallel with the second solid state switch, the second diode biased in a second direction.

12. (Currently Amended) A bypass circuit for preventing arcing of electrical energy passing between first and second contacts of a switching device having a coil wherein the contacts open and close in response to the energization of the coil, the bypass circuit comprising:
a first switch connected in parallel with the contacts of the switching device, the first switch movable between a closed position with the contacts open and an open position with the contacts closed;
a voltage reference device operatively connected to the coil, the voltage reference device generating a reference voltage in response to de-energization of the coil; and
an actuation circuit interconnecting the coil and the first switch, the actuation circuit closing the first switch in response to the reference voltage [de-energization of the coil].

Claims 13-14 (Cancelled).

15. (Currently Amended) The bypass circuit of claim 12 [13] wherein the actuation circuit includes [driver is] a transformer, the transformer having a primary side operatively connected to the voltage reference device [energy dissipation device] and a secondary side operatively connected to the first switch.

16. (Original) The bypass circuit of claim 12 wherein the electrical energy passing between the contacts has an AC waveform and wherein the bypass circuit further comprises a second switch operatively connected to the actuation circuit and being connected in parallel with the contacts of the switching device, the second switch movable between a closed position with the contacts open and an open position with the contacts closed.

17. (Original) The bypass circuit of claim 12 further comprising a second switch operating connected to the first switch, the second switch controlling the rate of closure of the first switch.

18. (Currently Amended) A bypass circuit for preventing arcing of electrical energy passing between first and second contacts of a switching device having a coil wherein the contacts open and close in response to the energization of the coil, the bypass circuit comprising:

a first switch connected in parallel with the contacts of the switching device, the first switch movable between an open position and a closed position;

an energy dissipation device operatively connected to the coil for generating a reference voltage for a predetermined time period [to dissipate a portion of the energy released by the coil] as the coil is de-energized; and

a driver interconnecting the energy dissipation device and the first switch, the driver closing the first switch prior to the opening of the contacts in response to the reference voltage [portion of energy absorbed by the energy dissipation device].

19. (Original) The bypass circuit of claim 18 wherein the driver is a transformer, the transformer having a primary side operatively connected to the energy dissipation device and a secondary side operatively connected to the first switch.

20. (Original) The bypass circuit of claim 19 further comprising a varistor connected in parallel with the contacts of the magnetic switching device.

21. (Original) The bypass circuit of claim 18 wherein the electrical energy passing between the contacts has an AC waveform and wherein the bypass circuit further comprises a second switch operatively connected to the driver and being connected in parallel with the contacts of the switching device, the second switch movable between an open position and a closed position.

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22. (Currently Amended) The bypass circuit of claim 21 wherein the driver closes the second switch prior to the opening of the contacts in response to the reference voltage [portion of energy dissipated by the energy dissipation device].